AMENDMENTS TO THE CLAIMS

Applicant submits below a complete listing of the current claims, including marked-up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing. This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of the Claims

1. (Currently amended) A monotonic counter formed as an integrated circuit, each counting bit being provided by a memory cell containing at least one storage element formed of a polysilicon resistor, programmable by irreversible decrease in its resistance value;

wherein the programming of said resistor is performed by temporarily submitting it to a constraint current greater than a current for which its resistance value exhibits a maximum, the maximum resistance value being greater than a nominal resistance value exhibited by the polysilicon resistor prior to submitting it to the constraint current ~~at a constraint current lower than a current for which the polysilicon resistor's value exhibits the maximum~~.

2. (Canceled)

3. (Previously presented) The monotonic counter of claim 1, comprising a circuit for decoding the states contained in said cells for providing the resulting count.

4. (Previously presented) The monotonic counter of claim 1, wherein each counting cell comprises, in parallel between two terminals of application of a supply voltage, two branches each comprising:

a first polysilicon programming resistor connected between a first supply terminal and a terminal of differential reading of the cell state; and

at least one programming switch connecting one of said read terminals to the second supply terminal.

5. (Previously presented) The monotonic counter of claim 4, wherein each branch comprises a programming switch.

6. (Previously presented) The monotonic counter of claim 4, wherein said programming resistors are two polysilicon resistors identical in size and in possible doping.

7. (Previously presented) The monotonic counter of claim 1, wherein each counting cell comprises a programming transistor in series with a programming resistor.

8. (Previously presented) The monotonic counter of claim 1, further comprising a circuit for controlling the programming of each of the counting cells, capable of providing individual control signals to the programming switches.

9. (Currently amended) A monotonic counter having a plurality of counting bits provided by a memory cell that includes at least one storage element comprising a resistor, programmable by decreasing the resistor's value;

wherein the programming of said resistor is performed by temporarily submitting the resistor to a programming current greater than a current for which the resistor's value exhibits a maximum, the maximum resistance value being greater than a nominal resistance value exhibited by the resistor prior to submitting the resistor to the programming current ~~at a current lower than a current for which the resistor's value exhibits the maximum~~.

10. (Canceled)

11. (Previously presented) The monotonic counter of claim 9, comprising a circuit for decoding the states contained in said cells for providing the resulting count.

12. (Previously presented) The monotonic counter of claim 9, wherein each counting cell comprises, in parallel between two terminals of application of a supply voltage, two branches each comprising:

a first polysilicon programming resistor connected between a first supply terminal and a terminal of differential reading of the cell state; and

at least one programming switch connecting one of said read terminals to the second supply terminal.

13. (Previously presented) The monotonic counter of claim 12, wherein each branch comprises a programming switch.

14. (Previously presented) The monotonic counter of claim 12, wherein said programming resistors are two polysilicon resistors identical in size and in possible doping.

15. (Previously presented) The monotonic counter of claim 9, wherein each counting cell comprises a programming transistor in series with a programming resistor.

16. (Previously presented) The monotonic counter of claim 9, further comprising a circuit for controlling the programming of each of the counting cells, capable of providing individual control signals to the programming switches.

17. (Previously presented) The monotonic counter of claim 9, wherein the decreasing includes irreversibly decreasing the value of the resistor.

18. (New) The monotonic counter of claim 9, wherein the programming current is greater than about one milliamp.

19. (New) A method of programming a monotonic counter having a resistor as a storage element, the method comprising:

applying a programming current to the resistor such that a resistance value of the resistor is irreversibly decreased, thereby programming the monotonic counter;

wherein the programming current is greater than an current for which the resistance value exhibits a maximum resistance value, the maximum resistance value being greater than a

nominal resistance value exhibited by the resistor prior to applying the programming current to the resistor.

20. (New) The method of claim 19, wherein the programming current is greater than about one milliamp.